



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,771	03/16/2004	Won-Chul Bang	Q78833	2650

23373 7590 11/23/2007  
SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

PARK, EDWARD

ART UNIT	PAPER NUMBER
----------	--------------

2624

MAIL DATE	DELIVERY MODE
-----------	---------------

11/23/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/800,771	Applicant(s) BANG ET AL.	
	Examiner Edward Park	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 17 September 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) 5,6 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. This action is responsive to applicant's amendment and remarks received on 9/17/07.

Claims 1, 3-7, 9-11 are currently pending.

### *Claim Objections*

2. The previous claim objection of claim 12 has been withdrawn due to the cancellation of the claim.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 3, 4, 7, 9, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (US 5,902,968) in view of Kashi et al (US 5,828,772).

Regarding **claim 1**, Sato teaches a handwriting trajectory recognition system, comprising:  
a motion detection unit adapted to output electric signals based on changes in acceleration of a body of the system in space (Sato: figure 10, numerals 102a-c, figure 11,

Art Unit: 2624

numerals 102a-c); and a control unit adapted to detect non-stroke regions intervals where the motions of the system body are temporarily stopped and recover handwritings based on the electric signals (Sato: col. 17, lines 12-22); wherein the control unit determining a range of time where a stroke is present by comparing the acceleration against a threshold (Sato: col. 35, lines 7-36). Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 3**, Sato discloses all elements as mentioned above in claim 1. Sato further teaches determining a start of a stroke by comparing a fixed number of samples of acceleration starting prior to the start up to a fixed time subsequent to the start against a threshold (Sato: col. 7, lines 28-51). Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 4**, Sato discloses all elements as mentioned above in claim 1. Sato further teaches determining an end of the stroke by comparing a fixed number of samples up to

Art Unit: 2624

the end of the stroke against the threshold (Sato: col. 7, lines 28-51). Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 7**, Sato teaches a handwriting trajectory recognition method comprising: detecting changes in acceleration of a body of the system in space (Sato: figure 10, numerals 102a-c, figure 11, numerals 102a-c); deciding non-stroke regions if there exist intervals where motions of the system body are temporarily stopped (Sato: col. 17, lines 12-22); and recovering handwritings by the system body based on decision results (Sato: col. 29, numeral 243); and where a range of time where a stroke is present is detected by comparing the acceleration against a threshold (Sato: col. 35, lines 7-36).

Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 9**, Sato discloses all elements as mentioned above in claim 7. Sato further teaches a start of a stroke is determined by comparing a fixed number of samples of

Art Unit: 2624

acceleration starting prior to the start up to a fixed time subsequent to the start against a threshold (Sato: col. 7, lines 28-51). Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 10**, Sato discloses all elements as mentioned above in claim 7. Sato further teaches determining by comparing a fixed number of samples up to the end of the stroke against the threshold (Sato: col. 7, lines 28-51). Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

#### ***Allowable Subject Matter***

5. **Claims 5, 6, and 11** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2624

Regarding **claim 5**, none of the references of record alone or in combination suggest or fairly teach the control unit determining an instant time  $k_1$  to be a start of a stroke if  $\sigma^s(k) > \sigma_{th}$  for a time interval  $[k, k+H]$ .

Regarding **claim 6**, none of the references of record alone or in combination suggest or fairly teach the control unit determining  $(k-S)$  to be an end of the stroke if  $\sigma^s(k) < \sigma_{th}$  for the time interval  $[k, k+H]$  within a time  $k \geq k_1 + W$ .

Regarding **claim 11**, none of the references of record alone or in combination suggest or fairly teach an instant time  $k_1$  to be determined to be a start of a stroke if  $\sigma^s(k) > \sigma_{th}$  for a time interval  $[k, k+H]$ .

### *Response to Arguments*

6. Applicant's arguments filed on 9/17/07 with respect to independent claim 1 have been fully considered but they are not persuasive. Applicant states that **claim 1** fails to suggest "comparing the standard deviation of the acceleration against a threshold". Applicant argues that Kashi determines the total error and compares the error against a threshold. This argument is not considered persuasive, the examiner notes that the combination of Kashi and Sato is merely incorporating the concept of standard deviation from Kashi and incorporating into Sato. Sato, in itself discloses acceleration against a threshold. Examiner is only incorporating the required, claimed components, no more or less. The reasons/motivation for the combination can be seen above in the rejection of claim 1.

In regards to **claims 3, 4, 8, 9, and 10**, see the response to arguments for claim 1 and the rejection of the respective claims above.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Park whose telephone number is (571) 270-1576. The examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.




Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edward Park  
Examiner  
Art Unit 2624

/Edward Park/



**VIKRAM BALI**  
**PRIMARY EXAMINER**